

STORAGE

FAQ

Q Could you tell me what LightScribe 1.2 is?

A DVD writers that support LightScribe technology can etch images and text on to the label side of specially coated LightScribe discs. This means you don't have to use stick-on labels or use a pen.

The latest LightScribe discs, which have a LightScribe 1.2 logo on their packaging, can reduce the lengthy time taken to burn a LightScribe label. There's no need to buy a new LightScribe DVD writer if you already have one. All you need are LightScribe 1.2 discs, some LightScribe labelling software (included with packages such as Nero and Roxio Easy Media Creator) and the latest version of the LightScribe host software, which is available from www.lightscribe.com.

In our tests, writing a LightScribe label using the older discs took between 20 to 30 minutes. Using LightScribe 1.2 discs, the time taken was reduced by four to five minutes.

Alan Lu

PC systems and storage expert

alan@computershopper.co.uk



LINKSYS NAS200

★★★

£96 inc VAT

From www.broadbandbuyer.co.uk

The Linksys NAS200 is a network attached storage (NAS) device that allows you to share your files with any computer on your network. You have to add your own SATA hard disks, but it can accommodate two disks and therefore can be configured as a RAID array.

When configured as a RAID 0, both disks are seen by Windows as a single drive, so a pair of 250GB disks would be recognised as one 500GB drive. However, if one disk should fail, all 500GB of data would be lost.

When configured as a RAID 1 array, the contents of one disk are automatically mirrored on the other, so your data should be safe if a disk fails. Only half the total capacity of the two disks would be available, though, so a RAID 1 array of two 250GB disks would have a total usable capacity of 250GB. The NAS200 can also be configured without RAID.

Inserting and removing a hard disk is simple thanks to the well-illustrated setup guide. The NAS200 doesn't use removable disk trays, though, which would make replacing a failed disk even easier. Configuration is also simplified by wizards and the web configuration interface, although note that hard disks have to be reformatted before they are recognised.

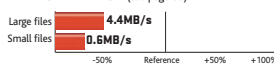
Unfortunately, the NAS200 was one of the slowest NAS devices we've seen recently. We installed a pair of 250GB Hitachi SATA hard disks. The graph below shows the file transfer speeds for the NAS200 when configured as RAID 0 array. Even though it's limited to 10/100Mbit/s rather than Gigabit Ethernet, the result was disappointing. It was even slower when configured as a RAID 1 array, transferring large files at 3.85MB/s

SUMMARY

- ✓ RAID support
- ✗ Slow file transfers
- ✗ No print server

NETWORK ATTACHED STORAGE
ENCLOSURE 10/100Mbit/s network connection, two USB ports, UPnP media server, FTP server, takes two 3½in SATA hard disks
PART CODE NAS200-EU
DETAILS www-uk.linksys.com

PERFORMANCE (see page 66)



and small files at 0.57MB/s. Copying a large number of files to the NAS200 will be excruciatingly slow.

The poor performance is especially obvious when using the NAS200 as a UPnP media server. Playing a DVD movie stored on the NAS200 using either a PC or network media player was a frustrating experience as the video and audio would often fall out of sync.

We had no trouble sharing the contents of a USB flash drive connected to the NAS200 over our network. Windows file attributes aren't supported, meaning that hidden files will be visible in Windows Explorer, which can clutter the view. Also missing is USB printer sharing, so you can't share a printer with other computers over your network by plugging it into the NAS200.

The straightforward interface for setting up user accounts allows only certain users on your network to access certain files. However, you can't group similar user accounts together for easier administration. There's an FTP server, and this is more configurable: you can change the port number as well as set up guest accounts.

Although the Linksys NAS200 is simple to assemble and configure, it is ultimately frustrating to use due to its poor file transfer performance. Although RAID support is useful in a NAS drive, it's not enough for us to recommend the NAS200.

Alan Lu

Also consider...

COOLER MASTER X Craft 360

★★★★★

£33 inc VAT

From www.yoyotech.co.uk



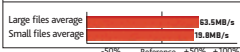
We tested Cooler Master's X Craft 360 disk enclosure with a 320GB Samsung hard disk. Apart from copying large files over eSATA, its performance

over both USB and eSATA was in line with our expectations. It's a little noisier than other eSATA enclosures, though.

Installing a disk inside the X Craft was effortless since it doesn't require a screwdriver. This alone makes it a useful product.



3½in HARD DISK ENCLOSURE
Takes one 3½in SATA hard disk, eSATA, USB Hi-Speed
PART CODE RX-360
DETAILS www.coolermaster.com
FULL REVIEW Dec 2007



LACIE d2 eSATA II 3Gbits Hard Drive 500GB

★★★★★

£115 inc VAT

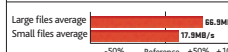
From www.expansys.com

LaCie's d2 external hard disk has a reassuringly heavy metallic case but is unusual since it has no other interface besides eSATA. Its excellent performance almost matched that of an internal SATA II disk, so it's much faster than any USB or FireWire 400 disk and quicker than most FireWire 800 disks.

The d2 is a very fast external hard disk and shows the speed benefits of eSATA.



EXTERNAL HARD DISK 500GB
capacity, 465GB formatted capacity (NTFS), eSATA
PART CODE 300976EK
DETAILS www.lacie.com/uk
FULL REVIEW Sep 2007



BUFFALO DriveStation TurboUSB 500GB

★★★★★

£88 inc VAT

From www.misco.co.uk

Buffalo claims its 500GB DriveStation TurboUSB external hard disk is up to 37 per cent faster than other USB disks. We reviewed Buffalo's portable TurboUSB disk in last month's *What's New*, so we expected some speed gains.

In standard USB mode, it wrote large files at 22.01MB/s and read them at 24.76MB/s, which is fast for a USB disk. It was quick when reading small files at 12.29MB/s, but slower than we expected at writing them, managing 8.43MB/s. In TurboUSB mode, there was an increase of around 20 per cent over standard USB speeds when copying large files, but it was slightly slower than standard mode when copying small files.

Although the DriveStation's TurboUSB mode produced inconsistent results and was sluggish when writing small files, it's otherwise a great performer and is cheap at only 19p per gigabyte.

Alan Lu

SUMMARY

- ✓ Inexpensive
- ✓ Fast overall performance
- ✗ Inconsistent TurboUSB speeds

DESKTOP EXTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), USB Hi-Speed interface
PART CODE HD-H500U2
DETAILS www.buffalo-technology.com

PERFORMANCE (see page 66)



FUJITSU HandyDrive-III 300

★★★★★

£126 inc VAT

From www.dabs.com

Fujitsu's 300GB HandyDrive is the most spacious portable USB hard disk we've seen. It looks classy, but it doesn't feel very sturdy. The plastic fascia buckled easily under pressure, revealing a small gap between it and the metal base, although it was easy enough to snap back together again. The mini USB and power connectors are shielded from dust by rubber flaps.

The HandyDrive was noticeably sluggish when reading files. It read large files at 22.94MB/s and small files at 10.02MB/s. Oddly, it was quicker at writing files, with large files at 23.98MB/s and small files at 10.2MB/s. The HandyDrive is fast enough overall, unless you regularly copy huge video files such as DV or HD footage.

The HandyDrive is reasonable value for a portable disk at 45p per gigabyte, but we can't recommend it unconditionally unless you need all that capacity.

Alan Lu

SUMMARY

- ✓ Huge capacity for a portable disk
- ✗ Mediocre construction
- ✗ Inconsistent performance

PORTABLE EXTERNAL HARD DISK 300GB capacity, 279GB formatted capacity (NTFS), USB Hi-Speed, bus powered
PART CODE MME2300UB
DETAILS www.fujitsu.com/uk

PERFORMANCE (see page 66)



CHOOSING AN... Internal Hard Disk

Follow the steps to find your ideal specs

CAPACITY: 250GB

SPINDLE SPEED: 7,200rpm

INTERFACE: PATA or SATA

Recommended minimum in grey

1 An internal hard disk with the above specifications should cost around £50. It's fast enough for general use and provides enough storage space for an average user. Make sure you get the interface type that matches your PC.

Parallel ATA (PATA) connectors use wide ribbon cables and are generally found in older computers. The newer Serial ATA (SATA) interface uses a thinner cable and is slightly quicker.

2 PATA hard disks require a standard four-pin Molex power cable. Some SATA disks can also use a Molex power connector, but others require the newer SATA power connector. If your power supply doesn't have any SATA power leads then you can buy a converter for around £4 including VAT from www.maplinc.co.uk.

3 Buy a hard disk with the capacity that you'll need, but aim to leave a little breathing room, as you'll always need more storage. Hard disks with a capacity of 300GB to 400GB tend to have the lowest cost per gigabyte, but not by much. Buy the largest hard disk that you can afford.

4 If you want more disk space or you want to protect your data, think about buying hard disks to create a RAID array. These use multiple hard disks to create a single, large, logical disk with better performance or protection for your data. RAID arrays need to be built with hard disks of the same size. Technically, these can be from different manufacturers, but try to get identical drives if you can.

5 A hard disk's spindle speed is very important as it governs how quickly the disk can transfer data. A spindle speed of 7,200rpm is common in desktop drives and fast enough for most purposes. If you do a lot of video editing or you run demanding applications, a 10,000rpm hard disk is a better choice, but it will be a lot more expensive. Desktop hard disks with 5,400rpm spindle speeds aren't common and are quite slow, but they generate less heat and noise so could be a good choice if you're building a small, quiet PC.

SEAGATE Barracuda 7200.10 Ultra ATA/100 500-GB Hard Drive

★★★★★

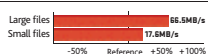
£89 inc VAT

From www.scan.co.uk

BEST BUY If you need a high-capacity hard disk for your files but your PC's motherboard lacks a SATA port, Seagate's PATA 500GB Barracuda 7200.10 is ideal. It is excellent value with an incredibly low cost per gigabyte of 16p. It's also very quick.

This is the best PATA drive we have reviewed.

3½in INTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), PATA interface, 7,200rpm spindle speed PART CODE ST3500630A
DETAILS www.seagate.com
FULL REVIEW Jul 2007



WESTERN DIGITAL Scorpio 250GB

★★★★★

£90 inc VAT

From www.lambda-tek.com/componentshop

Western Digital's 250GB Scorpio is the roomiest laptop

disk yet, rivalling the capacity of some desktop disks. The Scorpio is also one of the fastest 2½in hard disks we've seen and, what's more, it didn't reduce the battery life of our laptop, unlike other 2½in disks we've seen.

It all adds up to the best laptop hard disk we've seen, although it won't fit older notebooks since it uses a SATA instead of a PATA connection.



2½in INTERNAL HARD DISK 250GB capacity, 232GB formatted capacity (NTFS), SATA interface, 5,400rpm spindle speed
PART CODE 3384-5628
DETAILS www.westerndigital.com
FULL REVIEW Jan 2008

